IN THE CLAIMS:

1. (Original) An implantable medical device, comprising:

an elongated body extending from a proximal end to a distal end engaged along a target site;

a delivery member extending through the elongated body to deliver a voltage sensitive dye outward from the distal end of the elongated body to the target site via the delivery member; and

a transmission member, extending through the elongated body, to transmit a signal associated with an action potential corresponding to the target site.

2. (Original) The device of claim 1, wherein the delivery member extends from a proximal end to a distal end and is capable of being advanced between a first position corresponding to the distal end of the delivery member being positioned within the elongated body and a second position corresponding to the distal end of the delivery member being advanced outward from the distal end of the elongated body to further extend within the target site.

3. (Original) The device of claim 1, wherein the target site corresponds to excitable tissue.

4. (Original) The device of claim 3, wherein the excitable tissue is one of the myocardium of a heart, skeletal muscle, smooth muscle and nerve tissue.

5. (Original) The device of claim 1, wherein the transmission member is formed as a helical coil positioned about the delivery member.

6. (Original) The device of claim 1, wherein the action potential is associated with one of passing intrinsic depolarization wave fronts and evoked depolarization wave fronts.

7. (Original) The device of claim 1, further comprising a plurality of electrodes to deliver a therapy along the target site, wherein the action potential is generated in response to the delivered therapy.

8. (Original) The device of claim 2, wherein the transmission member is positioned within the delivery member.

9. (Original) The device of claim 8, wherein the transmission member is extendable between a first position corresponding to a distal end of the transmission member being positioned within the delivery member and a second position corresponding to one of the distal end of the transmission member extending outward from the distal end of the delivery member and the distal end of the transmission member being substantially adjacent to the distal end of the delivery member.

10. (Original) The device of claim 9, further comprising a fixation member to fixedly position the distal end of the elongated body at the target site.

11. (Original) The device of claim 10, wherein the fixation member is formed as a helical shaped fixation member and the delivery member is extendable through and outward from a distal end of the fixation member to further extend within the target site.

12. (Original) The device of claim 8, wherein the elongated body includes an inner surface forming a first lumen and the member further comprises:

a first engaging member positioned along the inner surface of the elongated body;

a positioning member extending through the elongated body and having an outer surface and an inner surface, the inner surface of the positioning

member forming a second lumen and the delivery member extending through the second lumen;

a second engaging member positioned along the outer surface of the positioning member;

a third engaging member positioned along a portion of the inner surface of the positioning member; and

a fourth engaging member positioned along the outer surface of the delivery member, wherein the first engaging member engages the second engaging member to fixedly position the positioning member longitudinally relative to the delivery member during rotation of the delivery member relative to the positioning member, and the third engaging member engages the fourth engaging member to advance the delivery member outward from the elongated body in response to the delivery member being rotated in a first direction and to retract the delivery member within the elongated body in response to the delivery member being rotated in a second direction.

13. (Original) The device of claim 12, further comprising a fixation mechanism engaging the delivery member to fixedly position the distal end of the delivery member relative to the distal end of the elongated body.

14. (Original) The device of claim 12, further comprising a fixation mechanism capable of being deployed in first state corresponding to the fixation member engaging the transmission member to fixedly position the transmission member within the delivery member during advancing of the delivery member, and in a second state allowing advancement of the transmission member within the delivery member to extend outward from the distal end of the delivery member.

15. (Original) The device of claim 8, wherein the delivery member is a needle having a sharpened tip.

16. (Original) The device of claim 1, further comprising a fixation member fixedly engaging the distal end of the elongated body along the target site.

17. (Original) The device of claim 1, further comprising a drug delivery member to deliver a glucocorticosteriod along the distal end of the elongated body.

18. (Original) The device of claim 1, further comprising control circuitry coupled to the transmission member determining whether the action potential is detected from the signal transmitted by the transmission member and determining an intrinsic heart rate and inhibiting pacing output of the device in response to the action potential being detected.

19. (Original) A method for sensing an action potential signal corresponding to a target site in a patient, comprising:

positioning an elongated body along the target site;

extending a transmission member through the elongated member to the target site;

delivering a voltage sensitive dye to the target site;

sensing a signal associated with the voltage sensitive dye;

determining whether the action potential associated with the target site is detected from the sensed signal; and

generating a sense signal in response to the action potential being detected.

20. (Original) The method of claim 19, further comprising determining an intrinsic heart rate and inhibiting pacing output of the device in response to the generated sense signal.

21. (Original) The method of claim 19, further comprising:

determining, in response to the action potential not being detected, whether an escape interval has expired;

delivering a pacing pulse in response to the escape interval expiring;

determining whether the action potential associated with the target site is detected from the sensed signal in response to the delivered pacing pulse; and

performing a pacing threshold search in response to the action potential associated with the target site not being detected from the sensed signal in response to the delivered pacing pulse.

22. (Original) The method of claim 21, wherein the voltage sensitive dye is delivered in response to a loss of capture being detected in response to a delivered pacing pulse.

23. (Original) The method of claim 19, further comprising:

determining whether a corresponding, temporally-related event is sensed in response to the action potential being detected;

adjusting sensitivity of the device in response to the corresponding, temporally-related event not being sensed; and

adjusting energy of the pacing pulse in response to the corresponding, temporally-related event being sensed.

24. (Original) The method of claim 23, further comprising:

delivering a pacing pulse in response to the action potential not being detected;

determining whether the action potential associated with the target site is detected from the sensed signal in response to the delivered pacing pulse;

performing a pacing threshold search in response to the action potential associated with the target site not being detected from the sensed signal in response to the delivered pacing pulse; and

adjusting an evoked response sensing threshold in response to the action potential associated with the target site being detected from the sensed signal in response to the delivered pacing pulse.

25. (Original) The method of claim 19, wherein the voltage sensitive dye is delivered in response to an arrhythmia being detected, and the method further comprises:

determining cellular activation and recovery activity at the target site and verifying the detected arrhythmia in response to the determined cellular activation and recovery activity; and

synchronizing therapy to the detected activation of cells at the target site in response to the arrhythmia being verified.

26. (Original) The method of claim 25, further comprising adjusting sensitivity of the device in response to the arrhythmia not being verified.

27. (Original) An implantable medical device, comprising:

means for positioning an elongated body along the target site;

means for extending a transmission member through the elongated member to the target site;

means for delivering a voltage sensitive dye to the target site;

means for sensing a signal associated with the voltage sensitive dye;

means for determining whether the action potential associated with the target site is detected from the sensed signal; and

means for generating a sense signal in response to the action potential being detected.

28. (Original) The device of claim 27, further comprising means for determining an intrinsic heart rate and inhibiting pacing output of the device in response to the generated sense signal.

29. (Original) The device of claim 27, further comprising:

means for determining, in response to the action potential not being detected, whether an escape interval has expired;

means for delivering a pacing pulse in response to the escape interval expiring;

means for determining whether the action potential associated with the target site is detected from the sensed signal in response to the delivered pacing pulse; and

means for performing a pacing threshold search in response to the action potential associated with the target site not being detected from the sensed signal in response to the delivered pacing pulse.

30. (Original) The device of claim 29, wherein the voltage sensitive dye is delivered in response to a loss of capture being detected in response to a delivered pacing pulse.

31. (Original) The device of claim 27, further comprising:

means for determining whether a corresponding, temporally-related event is sensed in response to the action potential being detected;

means for adjusting sensitivity of the device in response to the corresponding, temporally-related event not being sensed; and

means for adjusting energy of the pacing pulse in response to the corresponding, temporally-related event being sensed.

32. (Original) The device of claim 31, further comprising:

means for delivering a pacing pulse in response to the action potential not being detected;

means for determining whether the action potential associated with the target site is detected from the sensed signal in response to the delivered pacing pulse;

means for performing a pacing threshold search in response to the action potential associated with the target site not being detected from the sensed signal in response to the delivered pacing pulse; and

means for adjusting an evoked response sensing threshold in response to the action potential associated with the target site being detected from the sensed signal in response to the delivered pacing pulse.

33. (Original) The device of claim 27, wherein the voltage sensitive dye is delivered in response to an arrhythmia being detected, and the method further comprises:

means for determining cellular activation and recovery activity at the target site and verifying the detected arrhythmia in response to the determined cellular activation and recovery activity; and

means for synchronizing therapy to the detected activation of cells at the target site in response to the arrhythmia being verified.

34. (Original) The device of claim 33, further comprising means for adjusting sensitivity of the device in response to the arrhythmia not being verified.